

ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
Preparation for International)
Telecommunication Union World)
Radiocommunication Conferences)

IC Docket No. 94-31

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COMMENTS ON SECOND NOTICE OF INQUIRY

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Summary

Improving spectrum availability for MSS systems remains a necessary and important concern for the upcoming World Radiocommunication Conference. The worldwide shortage of MSS spectrum has only gotten worse as the demand for spectrum by newly proposed systems increases.

WRC-95 should be a useful conference for consolidating and improving many of the new allocations that were initiated at the 1992 conference. AMSC supports the following proposals made by the Commission in its Second NOI:

1525-1559/1626.5-1660.5 MHz. This spectrum should be reallocated to generic MSS and the service-specific allocations should be reduced to footnotes providing priority and preemptive access to appropriate safety services. This approach will make usage more spectrum efficient. The band at 1525-1530 MHz should have the same priority and preemptive access provisions as its corresponding uplink frequencies at 1626.5-1631.5 MHz. AMSC also strongly urges the Commission to clarify that Resolution 46 does not apply to geostationary satellite systems in these bands.

1610-1626.5/2483.5-2500 MHz. AMSC supports the Commission's proposals to improve the usefulness of these bands. These changes will make these bands more useable for MSS, regardless of whether AMSC operates in the bands as a geostationary or a non-geostationary MSS system.

2 GHz. AMSC supports Commission proposals that would lead to worldwide MSS allocations in the 1985-2025/2160-2200 MHz bands. The Commission's proposals for the 2 GHz bands offer a reasonable solution for loss of the spectrum that had been allocated internationally for MSS at WARC-92 (1970-1990 MHz), but was subsequently allocated

domestically for terrestrial Personal Communications Services. AMSC supports the Commission's goal of achieving an allocation of 40 MHz x 2. Though some of the spectrum will not be useable in the U.S., its availability elsewhere may be useful in the coordination of U.S. systems. AMSC also supports all of the 2 GHz allocations being available by 1996 in the United States so that MSS operators can begin planning for such systems.

1492-1525 MHz. AMSC recommends that the Region 2 MSS allocation at 1492-1525 MHz be expanded to Regions 1 and 3. This allocation would provide additional spectrum for MSS, albeit with limitations in certain areas as a result of sharing with incumbent services and systems. AMSC is not proposing at this time to delete RR 722C, which prohibits use of the 1492-1525 MHz band in the U.S. Nonetheless, AMSC remains optimistic that the sharing issues that led to the adoption of RR 722C can be resolved over time and some of this spectrum used by MSS systems. If that proves to be the case, AMSC will recommend appropriate new allocations for Region 2 that could be considered at WRC-97.

1675-1710 MHz. AMSC supports the Commission's proposal to allocate this band to MSS on a worldwide, co-primary basis. AMSC believes that part of the band may be available in the near future since sharing is currently feasible between MSS systems and meteorological satellite systems. Over time, AMSC expects that the entire band may be available for MSS, as meteorological aids systems are re-engineered to avoid drifting from assigned frequencies. In order to promote this added spectrum efficiency, AMSC recommends that the meteorological aids allocation be reduced from 1668.4-1700 MHz to 1668.4-1685 MHz and appropriate frequency tolerances be imposed on meteorological aids systems.

Feeder link issues. AMSC supports the Commission's efforts to find additional feeder link frequencies for non-GSO MSS networks. AMSC cautions, however, that if the Commission recommends that non-GSO feederlinks operate "reverse band" in the 10.75-10.95/13.0-13.15 and 13.2-13.25 GHz bands, the Commission must also impose PFD limits on the emissions of non-GSO satellites so as to protect geostationary satellite networks operating in the bands.

The WRC-97 Agenda. AMSC proposes a slight modification to Item 3.1 of the preliminary agenda for WRC-97. The proposed change would clarify that the conference may consider new MSS service link allocations.

Planning for Future Conferences. AMSC recommends that the Commission should establish an ongoing private sector advisory committee for WRC preparatory activities and should help develop an ongoing coordination process for WRC preparatory activities involving the Commerce and State Departments and the private sector.

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**COMMENTS OF
AMERICAN MOBILE SATELLITE CORPORATION
ON SECOND NOTICE OF INQUIRY**

American Mobile Satellite Corporation ("AMSC") hereby submits its comments on the Second Notice of Inquiry ("Second NOI") in the above-referenced docket, concerning preparation for the 1995 and 1997 World Radiocommunication Conferences ("WRC-95" and "WRC-97").^{1/} To improve opportunities for further development of Mobile Satellite Service ("MSS") domestically and internationally, AMSC supports the following Commission recommendations for WRC-95:

- reallocating to generic MSS the service-specific MSS allocations at 1530-1559/1626.5-1660.5 MHz;
- expanding and improving existing MSS allocations at 1610-1626.5/2483.5-2500 MHz, 1492-1525 MHz, and 1675-1710 MHz; and
- adding a new MSS allocation at 2010-2025 MHz.

In addition, AMSC urges the U.S. to clarify that MSS service links will be on the agenda for WRC-97.

^{1/} AMSC is the parent corporation of AMSC Subsidiary Corporation, which is licensed to construct, launch, and operate the U.S. Mobile Satellite Service ("MSS") and AMS(R)S (aeronautical safety services) system. See Memorandum Opinion, Order, and Authorization, 4 FCC Rcd 6041 (1989); Final Decision on Remand, 7 FCC Rcd 266 (1992), aff'd sub nom. Aeronautical Radio, Inc. v. FCC, 983 F.2d 275 (D.C. Cir 1993).

To better prepare for future conferences, AMSC recommends that the Commission continue to improve its advance planning and its close cooperation with the private sector and with other government agencies that have a role in conference preparation. The goal of U.S. planning efforts should be to have firm proposals in place at least six months before a conference begins.

Background

The era of Mobile Satellite Service is upon us. The first satellite of AMSC's \$650 million Mobile Satellite Service system is scheduled for launch March 31 and to begin service by June. For the first time, people who live, work, or travel in areas of the United States that are not served by terrestrial technologies will have ubiquitous access to the public switched telephone network. AMSC expects that its initial MSS system, operating in spectrum allocated domestically to MSS in 1987, will serve hundreds of thousands of customers within the next few years.^{2/}

To provide for future development of MSS, AMSC has been an active proponent of additional international and domestic allocations for MSS.^{3/} AMSC was the initial proponent of the reallocation to MSS of the Radiodetermination Satellite Service ("RDSS") spectrum.^{4/}

^{2/} AMSC is authorized to operate in the 1544-1559/1645-1660.5 MHz bands and has requested authority to also operate in the 1530-1544/1631.5-1645.5 MHz bands. See Memorandum Opinion and Order, 8 FCC Rcd 4040 (1993); see also Application of AMSC, File No. 59-DSS-MP/ML-93.

^{3/} AMSC continues to be active in conference preparation in support of U.S. efforts to develop MSS spectrum. AMSC's efforts include involvement in the FCC's Industry Advisory Committee and its Informal Working Groups, Study Groups in the ITU Radiocommunication Sector, and preparation for the upcoming CITEL PCC-III meeting in Venezuela and the ITU Conference Preparatory Meeting in Geneva.

^{4/} Comments of AMSC, Gen Docket No. 89-554 (December 3, 1990).

The U.S. successfully promoted such a reallocation at the 1992 World Administration Radio Conference ("WARC-92")^{5/} and AMSC has sought to use the former RDSS bands to expand the capacity of its geostationary MSS system.^{6/} AMSC also has been a leading proponent of

5/ At WARC-92, there were substantial new, worldwide, and regional MSS allocations. However, it was left to WRC-95 to address frequency-sharing criteria for use of frequency bands allocated to MSS and, if necessary, to consider new, limited MSS allocations. The WARC-92 allocations were as follows:

<u>Frequencies (MHz)</u>	<u>Regions</u>	<u>Date available</u>
1492-1525 (downlink)	2 (not in U.S.)	1993
1525-1530 (downlink)	2,3	1993
1610-1626.5 (uplink)	1,2,3	1993
1613.8-1626.5 (downlink)	1,2,3 (secondary)	1993
1675-1710 (downlink)	2	1993
1930-1970 (uplink)	2 (secondary)	1993
1970-1980 (uplink)	2	1996 (U.S.) 2005 (Region 2)
1980-2010 (uplink)	1,2,3	1996 (U.S.) 2005 (Global)
2120-2160 (downlink)	2 (secondary)	1993
2160-2170 (downlink)	2	1996 (U.S.) 2005 (Region 2)
2170-2200 (downlink)	1,2,3	1996 (U.S.) 2005 (Global)
2483.5-2500 (downlink)	1,2,3	1993
2500-2520 (downlink)	1,2,3	2005
2670-2690 (uplink)	1,2,3	2005

In addition, by footnote, the 1530-1544 MHz (downlink)/1626.5-1645.5 MHz (uplink) and 1555-1559 MHz (downlink)/1656.5-1660.5 MHz bands were allocated to MSS in the U.S. and other countries on a primary basis, subject to the condition that MSS systems in the bands protect and provide access for certain safety communications. To date, only the 1530-1544/1626.5-1645.5 MHz and 1610.5-1626.5/2483.5-2500 MHz bands have been allocated domestically to MSS.

6/ See File Nos. 15/16-DSS-MP-91. Following the Commission's decision to limit use of the bands to MSS systems using non-geostationary satellites, AMSC amended its proposal to one using medium-Earth orbiting satellites. See Licensing Policies and Procedures, Satellite Communications, Report and Order, CC Docket No. 92-166, 9 FCC Rcd 5936 (October 21, 1994); FCC File Nos. 19-SAT-LA-95, 20-SAT-AMEND-95.

additional MSS allocations at 2 GHz, both domestically and in connection with WARC-92, where AMSC was instrumental in crafting the international MSS allocations.^{7/} An AMSC subsidiary, Personal Communications Satellite Corporation, has an application pending to construct an MSS system in these bands, using a high-power geostationary satellite that will be capable of providing voice service to hand-held user terminals.^{8/}

AMSC also has advocated MSS allocations in the 1492-1525 MHz band, 1675-1710 MHz band, and the 2500-2535/2655-2690 MHz bands.^{9/} The 2.5/2.6 GHz allocations are not likely to be used in North America, but AMSC proposed the bands nonetheless as a way to reduce the demand for access to the 1.5/1.6 GHz MSS allocations, which are useable in North America.

Much work still needs to be done, both internationally and domestically, to identify and allocate sufficient spectrum to meet demand for the new service. More than one hundred satellite networks have been Advance Published with the International Telecommunication Union ("ITU") to use the bands in which AMSC's first satellite will operate.^{10/} The

^{7/} In its initial comments for WARC-92, AMSC proposed MSS allocations in the 1955-1990/2165-2200 MHz bands. Comments of AMSC, Gen Docket No. 89-554 (December 3, 1990). Last year, a subsidiary of AMSC, Personal Communications Satellite Corporation ("PCSAT"), filed a petition for rulemaking to allocate the 1970-1990/2160-2180 MHz bands to MSS. Petition for Rulemakings of Personal Communications Satellite Corporation for an Allocation of the 1970-1990 MHz (Earth-to-space) and the 2160-2180 MHz (space-to-Earth) Bands to the Mobile Satellite Services (filed April 7, 1994).

^{8/} Personal Communications Satellite Corporation Application for Authority to Construct a Domestic Communications Satellite for the Provision of Mobile Satellite Service in the 2 GHz Band, FCC File Nos. 24/25-DSS-P-94 (April 7, 1994).

^{9/} See Comments of AMSC, Gen. Docket No. 89-554 (December 3, 1990); see also Comments of AMSC, IC Docket No. 94-31 (July 15, 1994).

^{10/} See CPM Report to WRC-95, p. 19.

Industry Advisory Committee ("IAC") estimates that as much as 150-300 MHz of service link spectrum will be required generally for MSS by the year 2005.^{11/} The spectrum shortage is at least as severe for MSS feederlink requirements; hundreds of megahertz will be needed for feederlinks for the 1.6/2.4 GHz nongeostationary MSS systems and for future MSS systems at 2 GHz.^{12/}

Discussion

Past conferences, particularly WARC-92, made substantial progress in identifying and beginning the planning process for use of additional spectrum for MSS. As a result, most of the recommendations that follow concern improvements or expansions of existing allocations. In addition, AMSC proposes that the Commission continue improving its conference-planning process.

1525-1559/1626.5-1660.5 MHz. AMSC supports the Commission's proposal for generic MSS allocations in the 1525-1559/1626.5-1660.5 MHz bands, with the appropriate footnotes to safeguard aeronautical and maritime distress and safety communications.^{13/}

^{11/} For example, the international coordination process, though well advanced, requires AMSC to continually negotiate for scarce L-band spectrum with systems operated by Inmarsat, Canada, Mexico, and Russia, as well as any others that are planning networks or may emerge in the future.

^{12/} As part of its efforts to find additional feederlink spectrum for Big LEOs, the Commission is seeking comments in this proceeding on whether Big LEOs can operate in the reverse direction in the spectrum authorized for AMSC's feeder links (10.75-10.95, 13.0-13.15 and 13.2-13.25 GHz). See FCC File Nos. 445-DSE-P/L-93; 1540-DSE-P/L-94; Public Notice, Report No. DS-1476 (November 9, 1994).

^{13/} The U.S. has long been the leading proponent of MSS allocations. WRC-92 allocated the 1530-1544/1626.5-1645.5 MHz bands to MSS in the United States, Argentina, Australia, Brazil, Canada, Malaysia, and Mexico and allocated the 1555-1559/1656.5-1660.5 MHz bands to MSS in the United States, Argentina, Australia, Canada, and Mexico. See RRs 726C, 730B, 730C. The allocation at 1660-1660.5 MHz should also protect the Radioastronomy Service. See RR 730C.

Generic MSS allocations enhance spectrum utilization and efficiency. In contrast, service-specific allocations, i.e., maritime mobile satellite service, aeronautical mobile satellite service and land mobile satellite service, inhibit the international coordination process because they restrict the use of the frequencies in which an administration may operate. Maritime and aeronautical distress and safety communications will be protected by generic allocations, because MSS systems operating in these bands will provide priority and preemptive access to these safety services.

Moreover, aeronautical and maritime safety services will gain additional spectrum by the extension of generic MSS allocations. Specifically, if the AMSC proposal is adopted, aeronautical safety services will be able to operate with priority throughout the 1545-1559/1646.5-1660.5 MHz band and not be limited to the lower 10 megahertz. In addition, MSS systems will provide maritime communications in the 1525-1530/1626.5-1631.5 MHz bands, five megahertz more than the existing bands. In both cases, safety services will be protected by the appropriate international footnotes.^{14/}

AMSC also urges the U.S. to support the application of RR 726C (providing priority and preemptive access for maritime safety and distress communications) to the 1525-1530 MHz band. Under Commission rules, MSS services must provide priority and preemptive access to maritime and aeronautical services in the entire frequency ranges of the lower and upper L-bands. The same is true of international rules, with the exception of the 1525-1530 MHz frequencies. AMSC believes that the failure to apply RR 726C to the 1525-1530 MHz frequencies was an oversight that should be corrected at WRC-95. The 1525-1530 MHz

^{14/} In all likelihood, by the time WRC-95 begins, the AMSC system will be fully operational and capable of demonstrating the feasibility of providing priority and preemptive access.

frequencies were allocated to MSS in WRC-92 to correct the imbalance with the companion 1626.5-1631.5 MHz band and the same restrictions logically should apply to both uplinks and downlinks. In addition, by subjecting the additional spectrum to the same provision, the maritime community will have greater assurance that there will be adequate priority spectrum available to meet all of its distress and safety communications needs.

AMSC also strongly urges the Commission to clarify that Resolution 46 does not apply to geostationary satellite systems in these bands. Resolution 46 was adopted at WARC-92 to provide interim procedures for the coordination of nongeostationary satellite systems with other services, and is to be applied only in frequency bands in which specific reference is made to it in footnotes to the Table of Allocations. Currently, the U.S. position (as well as that of the United Kingdom) is reflected in a reservation taken at WARC-92 stating that they will not apply Resolution 46 to geostationary satellite systems in certain frequency bands, e.g., 1525-1559/1626.5-1660.5 MHz.^{15/} The purpose of the reservation was to ensure that existing systems, such as the AMSC and Inmarsat systems, would not be subject to additional coordination procedures. The U.S. should clarify this position at WRC-95 with appropriate language in the allocations, such as the following modification to RR 726D:

MOD 726D The use of the bands 1525-1559 and 1626.5-1660.5 MHz by ~~the mobile-satellite services~~ networks using satellites in non-geostationary orbits are subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC-92). Mobile-satellite networks using satellites in geostationary orbit are subject to the coordination and notification provisions of Article 11. In Regions 1 and 3, ...

1610-1626.5/2483.5-2500 MHz. AMSC supports the Commission's proposals to: (i) modify RR 731E to clarify that the EIRP limit is a mean value; (ii) recognize that MSS

^{15/} See Final Protocol No. 679, WARC-92 Final Acts.

systems may carry safety communications; and (iii) modify RR 753F to apply a relaxed power flux density threshold as a coordination trigger.^{16/} These changes will make these bands more useable for MSS, regardless of whether AMSC operates in the bands as a geostationary or a non-geostationary MSS system.

2 GHz. AMSC supports Commission proposals that would lead to worldwide MSS allocations in the 1985-2025/2160-2200 MHz bands. Those proposals include: (i) eliminating the secondary Region 2 MSS allocation at 1930-1945 MHz; (ii) dropping the status of the Region 2 MSS allocation at 1970-1980 MHz from primary to secondary; (iii) eliminating the MSS allocation at 1980-1985 MHz in all three regions; and (iv) adding an MSS allocation at 2160-2170 MHz in Regions 1 and 3.^{17/}

As discussed at length in the IAC report, there is still a serious shortage of useable MSS spectrum. The Commission's proposals for the 2 GHz bands offer a reasonable solution for loss of the spectrum that had been allocated internationally for MSS at WARC-92 (1970-1990 MHz), but was subsequently allocated domestically for terrestrial Personal Communications Services. AMSC recommends that all of the 2 GHz allocations should be available by 1996 in the United States so that MSS operators can begin planning for such systems.

AMSC also supports the Commission's goal of achieving an MSS allocation in the 2 GHz band of 40 MHz x 2, even though it appears that the lower 5 megahertz of both the

^{16/} Second NOI, at pp. 9-12.

^{17/} Though the Commission did not specifically propose the MSS allocation at 2160-2170 for Regions 1 and 3, it appears to be an oversight, and such an allocation would be consistent with the Commission's intent to have a useable spectrum of 40 X 2 megahertz.

uplink and downlink will not be used in the United States.^{18/} This additional spectrum may be used elsewhere by other systems; as such, it will be a valuable asset in international coordination negotiations and in the long run may permit U.S. MSS system operators to access more of the spectrum in the bands.

1492-1525 MHz. AMSC recommends that the Region 2 MSS allocation at 1492-1525 MHz be expanded to Regions 1 and 3. As with portions of the 2 GHz band, this allocation would provide additional spectrum for MSS, albeit with limitations in certain areas as a result of sharing with incumbent services and systems.^{19/} Notwithstanding these constraints, it appears technically feasible for MSS systems serving certain areas, such as Africa, to utilize the band, perhaps in lieu of other MSS bands that are already oversubscribed (1525-1559 MHz) or are in great demand (2483.5-2500 MHz). Such a result would directly benefit U.S. MSS interests.^{20/} For example, accommodation of new MSS systems at 1492-1525 MHz in Regions 1 and 3 might make it easier for Inmarsat and Russian MSS systems to gain access to the 1525-1559 MHz band for their existing and follow-on global systems without forcing those operators to seek a larger share of the 1525-1559 MHz MSS spectrum resources over North America. In addition, several planned foreign MSS systems will compete with U.S.

18/ The Commission has proposed a domestic MSS allocation in the 1990-2025/2165-2200 MHz bands. See Notice of Proposed Rulemaking, ET Docket No. 95-18, FCC 95-39 (January 31, 1995).

19/ For example, in the 1492-1525 MHz band it is believed that the U.K. is implementing new fixed systems (point-to-multipoint); Japan recently has implemented two types of public mobile telephone services; and Russia and Australia operate aeronautical telemetry systems.

20/ See attached draft proposal for RR 722D.

Big LEO systems for access to the 2483.5-2500 MHz band in various parts of the world.

Some of these planned foreign systems may be accommodated at 1492-1525 MHz.^{21/}

AMSC is not proposing at this time to delete RR 722C, which prohibits use of the 1492-1525 MHz band in the U.S. Nonetheless, AMSC remains optimistic that the sharing issues that led to the adoption of RR 722C can be resolved over time and some of this spectrum used by MSS systems.^{22/} If that proves to be the case, AMSC will recommend

21/ This same allocation approach was adopted by the U.S. at WARC-92 in the form of MSS allocations in the 2500-2690 MHz, which are not usable for MSS in or near the United States.

22/ With respect to possible domestic use of the band, recent sharing studies conducted by AMSC indicate that it may be possible for an MSS system to operate on as much as 5 MHz of this band without interfering with aeronautical telemetry operations. In order to protect existing aeronautical telemetry systems in the U.S., the carrier frequencies of MSS downlinks serving the U.S. would have to be positioned near the edges of channels used by the aeronautical telemetry systems. Under the protection criteria developed by AMSC, telemetry systems in a portion of the band 1492-1525 MHz would have to either comply with pre-established telemetry standard channels or inform the MSS operator in advance of revised channel plans that will be followed in upcoming tests. If all telemetry operations throughout the 1492-1525 MHz band were to adhere to the standard channel plan, approximately 25 narrowband MSS downlink carriers operating at the PFD levels needed for high-quality vehicular service could be accommodated centered on the telemetry channel edges. This would yield an equivalent usable overall bandwidth of up to 5 MHz of spectrum for MSS in the U.S. However, existing telemetry standards define several alternate channel arrangements (e.g., multiple abutted channels for accommodation of MAT video transmissions) in addition to the standard 1 MHz channels. A copy of this study is attached to the June 15, 1994 Comments of AMSC, submitted to the FCC in ET Docket No. 94-32.

Further review of this sharing proposal could lead to one of two options being adopted by the Commission: (i) a small portion of this band (1515-1525 MHz) could be made available in the U.S. for exclusive MSS use as a matching downlink for the 1675-1710 MHz or 1616.5-1626.5 MHz uplink bands; or (ii) the entire band could be made available for MSS on a shared basis, with the expectation that approximately 5 MHz would be useable.

appropriate new allocations for Region 2 that could be considered at WRC-97.^{23/}

1675-1710 MHz. AMSC supports the Commission's proposal to allocate this band to MSS on a worldwide, co-primary basis. AMSC believes that part of the band may be available in the near future since sharing is currently feasible between MSS systems and meteorological satellite systems. Over time, AMSC expects that the entire band may be available for MSS, as meteorological aids systems are re-engineered to avoid drifting from assigned frequencies.^{24/} In order to promote this added spectrum efficiency, AMSC

23/ If the first option is pursued, AMSC suggests that the U.S. at WRC-97 propose to delete the MSS allocation at 1492-1515 MHz and delete RR 722C in the 1515-1525 MHz band. If the second option is pursued, RR 722C should be deleted throughout the 1492-1525 MHz band.

24/ The mobile nature of certain meteorological aids receivers, and the fairly dense deployment of others at specified and unspecified fixed sites, limits the potential for co-frequency sharing with MSS on the basis of geographic separation. In addition, the requirement to operate certain of these meteorological aids receivers on an unscheduled basis depending on weather conditions or the user applications limits the potential for co-frequency time sharing. Thus, co-frequency operation may not be feasible. Because available meteorological aids transmitters have very poor frequency tolerances, it is difficult at present to avoid co-frequency operation with regard to current meteorological aids transmitters, except at frequencies near and above 1700 MHz.

What produces optimism for sharing between MSS and meteorological aids is the fact that the frequency of a meteorological aids transmitter using older technology typically is susceptible to drifting pseudorandomly between frequencies as low as 1668.4 MHz and as high as 1700 MHz, yielding a frequency tolerance as high as 18,940 parts per 10⁶, which is thousands of times less stringent than the tolerances allowed for other services in the same frequency range (typically 100 parts per 10⁶). See RR Appendix 7, which specifies frequency tolerances for several services (but not meteorological aids) in the frequency range 470-2450 MHz. In order to enable efficient frequency sharing between aeronautical mobile (public correspondence) systems and meteorological aids systems in the band 1670-1675 MHz, pursuant to the allocation established for the mobile service by WARC-92, the meteorological aids community is undertaking efforts to reduce their abominable frequency tolerances. These efforts could readily be expanded for the purpose of enabling efficient frequency sharing between MSS and meteorological aids systems in at least the 1690-1700 MHz segment

(continued...)

recommends that the meteorological aids allocation be reduced from 1668.4-1700 MHz to 1668.4-1685 MHz and appropriate frequency tolerances be imposed on meteorological aids systems.

Feeder link issues. AMSC supports the Commission's efforts to find additional feeder link frequencies for non-GSO MSS networks. AMSC, however, opposes the use of the bands 10.75-10.95 GHz, 13.0-13.15 GHz and 13.2-13.25 GHz for non-GSO feederlinks, as these bands are used for AMCS's feederlinks. AMSC recommends that if the Commission proposes that non-GSO feederlinks operate "reverse band" in the 10.75-10.95, 13.0-13.15 and 13.2-13.25 GHz bands, the Commission must also adopt its recommended modification to RR 2631. This imposes PFD limits on the emissions of non-GSO satellites so as to protect geostationary satellite networks operating in the bands. AMSC believes that, as modified, RR 2631 will ensure that there will not be interference between non-GSO feederlinks and the feederlinks of AMSC-1, PCSAT, or any other geostationary satellite network AMSC operates within the bands.

The WRC-97 Agenda. AMSC proposes a slight modification to Item 3.1 of the preliminary agenda for WRC-97. The proposed change would clarify that the conference may consider new MSS service link allocations. This flexibility will be useful if WRC-95 is unable to complete its agenda, or if new information becomes available after the 1995

24/(...continued)

of the MSS allocation. Moreover, because of the random nature of the instantaneous frequency of meteorological aids system and potentially high probability densities of frequency at frequencies near the mid-point of the 1668.4-1700 MHz range, the low probabilities of interference in the 1690-1700 MHz band may inherently enable frequency sharing. That is, for mobile earth stations that occasionally use a given frequency in the 1690-1700 MHz band, it is very unlikely that a proximate meteorological aids receiver will be tuned to the same frequency.

conference indicating the possibility for additional allocations.^{25/} The new proposal would read:

- 3.1 unresolved and other pressing issues concerning frequency allocations and regulatory aspects as related to the mobile-satellite service, including additional allocations for service links and feeder links for mobile-satellite services as appropriate;

Planning for Future Conferences. AMSC recommends, consistent with the recommendations that are being developed by the Industry Advisory Committee, that the Commission should establish an ongoing private sector advisory committee structure for WRC preparatory activities, and should help develop an ongoing coordination process for WRC preparatory activities involving the Commerce and State Departments and the private sector.

The ITU Constitution and Convention provide that a World Radiocommunication Conference shall be held every two years to consider substantive agenda matters and make recommendations for future Conference agendas two and four years in advance. The agenda for a Conference will have been tentatively established some 19 months prior to the date for submission of member proposals. Substantive proposals from Members must be submitted at least four months prior to the start of the Conference, which normally means by June of the year of the Conference.

As a practical matter, the preparatory activities should be completed (or very far along) considerably ahead of the final submittal date of proposals, preferably by March-April of the year of the Conference. This will provide time to finalize an appropriate technical basis for

^{25/} For example, AMSC believes that an MSS downlink allocation may be possible at 1559-1569 MHz. See Section 3.7.2 of the IWG 3 Preliminary Report (December 16, 1994). However, little progress has been made to evaluate the attendant sharing situations. It was therefore agreed that this proposal should be considered for WRC-97.

the proposals (at the meeting of the CPM) and to coordinate on a bilateral or multilateral basis with other countries and regions (as, for example, CITEL in the Americas).

AMSC urges the Commission to create an ongoing Industry Advisory Committee, to the extent permitted by the Federal Advisory Committee Act.^{26/} A new chairman of the reconstituted IAC should be appointed shortly after the conclusion of each WRC to be responsible for the development of the IAC structure and recommendations for the next scheduled WRC. As now, IAC membership should be open to the public.

It is important for the Commission to foster cooperation among the private sector and other government agencies that play key roles in conference preparation. For instance, the IRAC process within the NTIA is responsible for determining the Government users' requirements for new spectrum, new services and the Government requirements for continued use of existing spectrum. In recent years, the IRAC process has become much more open, including the establishment of a Radio Conference Subcommittee to coordinate the views of the various federal agencies on future WRC agenda matters. That committee is increasing its level of cooperation with the private sector. More should be done to formalize this open process and increase at the earliest possible stage the involvement of private sector participants.

The State Department also plays a key role in WRC preparation and conference activities. It has recently created an International Telecommunications Advisory Committee ("ITAC"), which replaces the previously existing CCITT and CCIR National Committees.

^{26/} Pub. L. 92-463, 86 Stat. 770, 5 U.S.C. Appendix 2 (1988). Section 14 of the Act provides that each advisory committee shall terminate "not later than" two years after the date of its establishment. Accordingly, a separate IAC must be established for each WRC, though obviously the charter and the terms of reference may continue common elements. Also, some members may serve on more than one committee.

Because of the increased role of the Conference Preparatory Meeting ("CPM") in conference matters, the ITAC will have additional responsibilities as it helps draft the U.S. technical inputs to the CPM. Most of the members (government and private sector) of ITAC are actively involved in the conference preparatory work at FCC, NTIA, and within the study groups and CPM of the ITU-R. Hence, the technical experts of the ITAC-R will be totally familiar with and involved in the WRC agenda matters. The FCC should continue to support this work with personnel and resources.

Also reinforcing the need for early action is the recent establishment in CITEL of a WRC Conference Preparatory Group, designed to afford early exchange of views regarding the agenda matters. This group also, over time, will try to coordinate common positions. Clearly, it could provide a forum for gaining support for specific U.S. proposals. This CITEL meeting will be held in the spring of the year of the conference. CITEL Members must be in a position to present and consider each others' proposals at that time.

Finally, the U.S. will benefit from the early development of U.S. tentative positions through its opportunity to discuss such proposals in multi-lateral or bi-lateral forums well in advance of the conference. Results of these consultations could cause a needed revision of some proposals.

In summary, a schedule of U.S. preparatory activities might include the following timeline:

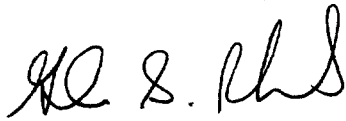
Completion of WRC and adoption of Agenda for next conference	November, year 1
Creation of next IAC	January-February, year 2
Commission's First NOI	February, year 2
Commission's Second NOI	September-October, year 2
U.S. CPM preparatory work (ITAC-R)	January-February, year 3
Final IAC Report	March, year 3
Final FCC Report	April, year 3
Any Supplemental FCC Reports and any submission of proposals to ITU	June, year 3
WRC	October-November, year 3

Conclusion

AMSC recommends that the U.S. proposals for WRC-95 be consistent with the positions stated above.

Respectfully submitted,

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Dated: March 6, 1995

Draft Proposal

MHz
1492 - 1525

Region 1	Region 2	Region 3
1492 - 1525	1492 - 1525	1492 - 1525
FIXED MOBILE except aeronautical mobile <u>MOBILE-SATELLITE</u> <u>(space-to-Earth)</u>	FIXED MOBILE 723 MOBILE-SATELLITE (space-to-Earth)	FIXED MOBILE 723 <u>MOBILE-SATELLITE</u> <u>(space-to-Earth)</u>
722 723B <u>722D</u> <u>723C</u>	722 722C 723C <u>722D</u>	722 <u>722D</u> <u>723C</u>

Reason: To provide more spectrum for domestic, regional and global-coverage MSS systems.

ADD 722D The ITU-R has found that the allocation to the mobile-satellite (space-to-Earth) service at 1492-1525 MHz is of limited utility in certain sub-Regions due to the frequency plan and/or satellite power flux-density constraints needed to protect other services. See applicable ITU-R Recommendations regarding mobile-satellite (space-to-Earth) sharing with systems in the fixed service and mobile aeronautical telemetry systems operating under No.s 722C, 723 and 723B. Mobile-satellite systems operating in the band 1492-1525 MHz are for operation limited to within national boundaries.

DECLARATION

I, Thomas M. Sullivan, do hereby declare as follows:

1. I have a Bachelor of Science degree in Electrical Engineering and have taken numerous post-graduate courses in Physics and Electrical Engineering.
2. I am presently employed by Computer Sciences Corporation and was formerly employed by the IIT Research Institute, DoD Electromagnetic Compatibility Analysis Center.
3. I received in 1982 an official commendation from the Department of the Army for the establishment of worldwide frequency accommodations for mobile earth stations.
4. I am qualified to evaluate the technical information in the Comments of American Mobile Satellite Corporation. I am familiar with Part 25 and other relevant parts of the Commission's Rules and Regulations.
5. I have first-hand experience in the coordination of frequency assignments for mobile satellite systems.
6. I have been involved in the preparation and have reviewed the Comments of American Mobile Satellite Corporation. The technical facts contained therein are accurate to the best of my knowledge and belief.

Under penalty of perjury, the foregoing is true and correct.

6 March 1995

Date

Thomas M. Sullivan

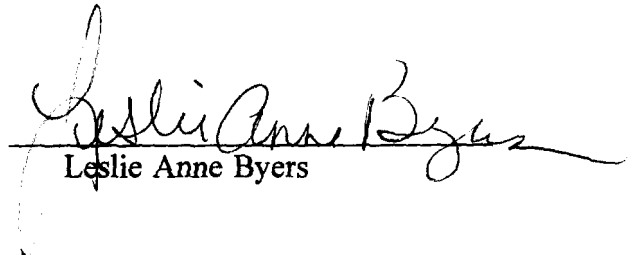
Thomas M. Sullivan

CERTIFICATE OF SERVICE

I, Leslie Anne Byers, hereby certify that I have this 6th day of March, 1995, mailed by first class United States mail, postage prepaid, copies of the foregoing "**COMMENTS OF AMERICAN MOBILE SATELLITE CORPORATION ON SECOND NOTICE OF INQUIRY**" to the following:

*Mr. Damon Ladson
Radiocommunication Policy Branch
Federal Communications Commission
2000 M Street, N.W.
Washington, D.C. 20554

*Ms. Audrey Allison
Radiocommunication Policy Branch
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Leslie Anne Byers

*Hand Delivered